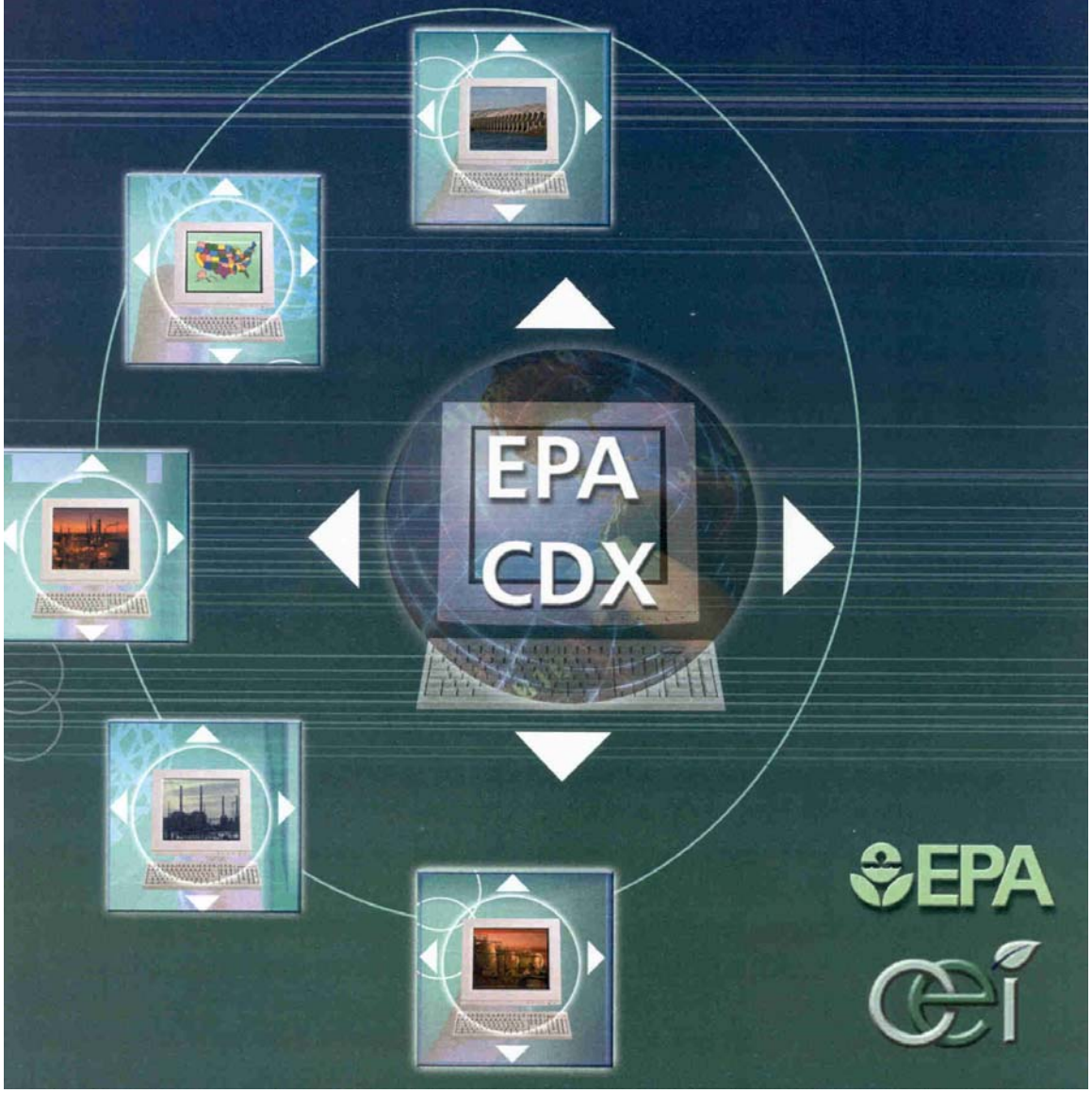
Getting Started with CDX



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1. Introduction

What is CDX

The Central Data Exchange (CDX) is the single point of entry for environmental data into EPA. It will be EPA's Node on the National Environmental Information Exchange Network (NEIN) which will link EPA and the states over the Internet and will also eventually include other stakeholders. Most of the development to date has focused on electronic submission but the service will support paper submissions as well.

In brief CDX provides the following services:

- Receive data either in paper or electronic form
- Perform security and archiving functions
- Perform data edits and format conversions
- Distribute the data to the appropriate EPA and other agency systems
- Support external users.

Why CDX?

EPA established the CDX and electronic reporting in response to many driving forces including:

- The Government Paperwork Elimination Act (GPEA) of 1998 and other federal directives, legislation, and policies, designed to implement Electronic Government (E*Gov) across the federal government.
- Congressional directives to improve public access to data (especially for those with disabilities), improve data quality, and accountability.
- The EPA's own Re-inventing Environmental Information (REI) Initiative to promote better information sharing and burden reduction for all stakeholders and to increase the quality and timeliness of data available.
- Realization that it is more efficient and cost-effective for EPA and less burdensome on EPA partners and state holders to have one agency-wide portal to exchange information through, versus hundreds of separate ones each with their own infrastructure and procedures.

- State initiatives to establish electronic data collection from their stakeholders and to improve and standardize exchanges with EPA.
- The public's rapidly increasing sophistication and expectation for government to implement electronic communications and business.

CDX Benefits

EPA BENEFITS

The CDX will provide numerous benefits for the agency, CDX will

- Eliminate redundant costs associated with individual programs maintaining hardware, software, and human resources to manage electronic reporting.
- Establish a consistent policy and infrastructure for authenticating submissions, maintaining electronic records, and providing information security.
- Increase EPA's capability to restructure and distribute data between information recipients both within the agency and with external stakeholders.
- Improve data quality by providing edit checks in web forms and edits on submitted files.
- Act as a catalyst for process re-engineering that will automate and streamline reporting to benefit all stakeholders.
- Enable EPA and its environmental information partners to independently modernize their legacy information systems.

CDX will enable EPA program offices to implement electronic reporting more quickly, economically, and easily than they could themselves. With CDX, users also ensure that they are operating in an environment that is readily acceptable to their user community because CDX is consistent with the NEIN for states and with other submission processes for facilities and other stakeholders. Lastly, as paper submissions are implemented, cost associated with receipt, initial processing and storage of paper are reduced because CDX will offer economics of scale that no individual program can match on its own.

BENEFITS TO SUBMITTERS

External stakeholders can anticipate many of the following benefits:

- *Single approach and location for submitting all compliance reports*—The single-point-of-entry will reduce confusion and delays about where to submit compliance data.

- *Consistent familiar approach "look and feel"*—CDX will provide consistent points of contact, policies and procedures no matter what EPA program or office destination for the submitting data.
- *Quick confirmation receipt*—CDX can provide electronic receipts and/or copies of record back to the user. EPA's information stakeholders have repeatedly told us that they value immediate confirmation that their data has been received and/or is complete.
- *Improve data quality*—CDX web forms and translation software can provide any data quality checks that the program office desires.
- *Reduce reporting costs*—organizations can either buy commercial software or develop applications to electronically record compliance data and automatically send it to CDX. In some cases this software can be linked directly to automatic monitoring equipment eliminating the need to manually collect, record, transmit, or file data.
- *Reduce paper costs*—electronic reporting eliminates the need to record, reproduce, mail, store, and retrieve compliance data and forms that facilities must produce and archive each year.
- *Improve public awareness of meeting environmental commitments*—Companies which meet or exceed their environmental commitments want this acknowledged through rapid processing and public dissemination of their compliance data by state and federal agencies. Electronic reporting helps ensure that data is accurate and timely. If appropriate, electronic reporting can help EPA publish that data more quickly in its Envirofacts warehouse.

BENEFITS TO STATES

States act both as recipients and submitters of environmental data. Through investing in electronic reporting, fostering its growth among their reporting community, and working with the EPA; states can obtain the same or greater benefits than EPA.

SYSTEM-WIDE BENEFITS

The ability of today's technologies to exchange, edit, combine, separate, reformat, and redistribute data offers tremendous power to streamline and simplify compliance reporting. This simply does not exist with paper reporting or even with electronic reporting implemented individually by separate programs and entities.

2. Overview of Operations

CDX Status

CDX is in operational status. It provides production data flows for the Toxic Release Inventory (TRI), National Air Emissions Inventory (NEI), and Unregulated Contaminant Monitoring Rule (UCMR). Several others including Interim Data Exchange Format (IDEF) for the Permit Compliance System (PCS), submissions under the Toxic Substance Control Act (TSCA) and the Resource Conservation and Recovery Act (RCRA) are in development.

Submission of electronic reports to CDX is open to registered stakeholders 24 hours a day, seven days a week. CDX provides customer technical support, 10 hours a day on all federal work days.

CDX does not currently accept paper submissions. Initial paper submissions are anticipated by 2004.

CDX Functions and Architecture

CDX enables EPA program offices to accept electronic submissions more quickly, economically, and easily. The following short description of CDX functions describes the capabilities, and in some cases options, that program offices can use to support their flows.

SYSTEM FUNCTIONS

The following paragraphs summarize the ten core functions of CDX.

- *Maintain Website*—The CDX website is the user entry point into the CDX. It has both an open portion that generally describes CDX and a private portion only for registered users. Submitters use a password to enter the private portion of the site and select the desired submission type from a tailored menu. The CDX website can supply links to program office information release and assistance sites.
- *Register Users*—All users must register as individuals representing approved organizations and submissions. CDX provides two separate sites, one for commercial entities and one for government entities. Program offices have several options for defining registration procedures which are described in Section 4.

- *Support Users*—The CDX provides technical support that users can access by toll free number, e-mail, and facsimile. CDX Technical Support is manned from 8:00 a.m. to 6:00 p.m. Eastern time, Monday through Friday on all federal work days. CDX Technical Support assists users in registration and all CDX submission issues as well as reference program-related questions to the applicable program.

- *Receive Submissions*—CDX receives electronic submissions into its electronic in-box 24 hours a day, seven days a week. If needed, the system can return a receipt acknowledgement e-mail for any item received. Every submission is automatically scanned for viruses.

- *Archive*—All incoming documents are immediately archived as received and retained in an Oracle database. Depending on the processing steps, further copies may also be made.

- *Manage Security*—If the EPA program offices require the data to be submitted with a password or digital signature, this function will verify the accuracy and currency of the password or certificate.

- *Translate Submissions*—The format of the incoming data can be converted to a different format. The most common translation is to accept XML format in from users and translate it into flat-files used by EPA systems. CDX can accept a variety of formats including program office specific flat-files, EDI, and XML. *XML is the preferred format for the National Environmental Information Network (NEIN).* CDX can also accept one input format and produce multiple output formats to disparate recipient systems including other federal and state systems.

  CDX can also edit and/or validate the content of individual data elements. The CDX can mark transactions as accepted, accepted with errors or rejected. It can also provide electronic notification of translation results to the submitter the program office or both.

- *Distribute Submissions*—The CDX can forward (push) or make available (pull) the submitted data to systems either in or outside the EPA.

- *Manage CDX Operations*—This supports routine systems management including: providing overall security, monitoring transaction flow, maintaining transaction logs, hardware and software configuration management, documentation, quality assurance, etc.

CDX offers both structure and flexibility. As noted previously, the above summary of CDX functions is just that. Discussions with CDX staff can further provide more information about how CDX functionality can provide services to program offices and their users.

System Architecture

The CDX operates on a series of configurable and expandable set of Microsoft Windows NT servers.

Key commercial software includes: Oracle 8I is used as the underlying database for archiving, transaction logging, and registration; Sterling Commerce GENTRAN system is used for translation and validation; Cold Fusion or Active Server Page (ASP) software with Visual Basic and JAVA are used to maintain CDX webpages.

External users typically will use PCs with internet connectivity to submit to CDX. In order to submit data to CDX, users must have systems that meet or exceed the following system configuration:

- IBM compatible PC, 486 or above—Pentium or above highly recommended
- Windows 95 or above
- Internet Explorer 5.0 or above
- Internet connectivity
- Printer

While there are no prescribed minimums for amount of RAM, modem speed or other system characteristics, these characteristics may directly effect throughput and productivity.

Responsible Organization

The CDX is managed by the EPA's Office of Environmental Information, Office of Information Collection. For any additional information or assistance please contact:

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3. Development Approach

Getting Started

This section provides an overview of the steps necessary to successfully implement a new data flow through CDX. The discussion focuses on electronic flows, but most of the steps apply equally to paper flows as well.

Stages

Business Analysis and Requirements Determination

In this stage the program office and CDX staff work together to thoroughly understand the business requirement for the data collection. It will require answering many questions such as:

- What is the anticipated number of documents that will flow through CDX in a year?
- What format will they be in? (i.e., paper, flat-file, web-form, XML)

These and many more questions must be thoroughly reviewed. OIC staff can provide planning forms that offer a more detailed look at the information that must be analyzed in order for CDX to provide the services the program office requires. These forms are broken out by CDX functions. The answers to these questions will provide the foundation for the requirements planning phase. With this information, the CDX staff in conjunction with the program office and, external stakeholders as needed, will document the intended flow through the following:

- *Simple Concept of Operations*—A simple overview of the planned data flow. This may be as simple as a single diagram and a page of text. Its purpose is to quickly convey a planned approach and to ensure all parties have the same basic understanding.
- *Project Management Plan (PMP)*—The PMP will include both an initial cost estimate and schedule. It will convey the overall "footprint" of the program in order for both CDX and program office management to make appropriate decisions for project direction, timing, and resources. Once reviewed, both the program office and OIC will formally concur on it. Subsequently, the PMP will be periodically updated and used to manage progress.

- *Systems Requirements Specification*—This key document details the specific functions to be provided by CDX to the program office. It states the program office commitment in terms of the data flows expected characteristics such as volume, number of users, and document characteristics.

Outreach

Use of CDX implies an exchange involving external stakeholders. The program office should involve external stakeholder early in the development process for several reasons: Obtain buy-in; Obtain stakeholder insights into the data flow process and potential enhancements; Provide stakeholder time to develop their applications; And to obtain testers. The CDX staff can provide the program office support in outreach activities relating to CDX.

SYSTEM DESIGN

The next stage is the system design, the key output of this stage is the system d*esign document*—This document details the exact steps and methodology that will be used in implementing the data flow. It often consists of a variety of charts and diagrams that portray the system.

Two other documents can be developed at this time or in later stages:

- *Test plan*—This document identifies the participants and the testing to be conducted.
- *Implementation guides (IG)*—These documents are typically intended for external stakeholders who submit data to the CDX. CDX has a prescribed format for this documentation that is tailored for each flow. The IG set contains an overview (Volume I) and then a specific volume for each format that is used to submit data such as XML and web forms.

DEVELOPMENT (PROGRAMMING)

Using the system *design document* as the base, programming begins. The extent of this work can range from simple to complex. The simplest flow would be to accept a data file (XML or flat-file), archive it, and make it available for the program offices to pickup on the distribution server. Alternatively, CDX can provide program office custom support in terms of interim database support or highly sophisticated data transformations.

CDX staff will provide the programming support to develop these systems. In rare cases, the program office can develop the application separately and port it to CDX for hosting. In this case, the program office must develop the application using software and protocols consistent with CDX guidelines.

During programming and subsequent testing (and sometimes at previous and subsequent stages) changes become necessary. These changes are documented

through *System Change Request (SCR).* As design and implementation proceed, new requirements may emerge, or the environment may change. Additionally, system development is rarely perfect the first time, so errors must be identified for correction. SCR reports identify all of these items and are generated as needed. When OIC and program office staff decide upon significant changes in the requirements that affect cost and/or schedule, these changes are documented in the SCR system.

TESTING, VALIDATION, AND USER ACCEPTANCE

Testing should occur in phases. Again, the scope of testing will reflect the size, complexity, and criticality of the data flow. Typically, CDX technical staff conduct internal testing which can include any of the following:

- *Unit testing*—initial testing by the programmers to verify individual system components as they are developed.
- *Functional testing*—testing by others to verify the component's operation.
- *Integration testing*—testing of the complete system or major subsystems.
- *Regression testing*—verification of changes to a system to ensure that changes to one or more components did not affect other components.
- *Load or stress testing*—for high-volume submissions these tests simulate submission of the anticipated throughput to ensure hardware and software function adequately.

OIC and program offices will then conduct initial user testing, and finally extend the testing to a limited set of external testers. The program office will be asked to provide sample data early in the project for analysis and testing purposes.

Once testing is successfully completed, the program office accepts the system as operational. It is helpful if acceptance criteria can be defined early in the project. When accepted, the flow is ready to move to production and becomes available to external users.

MOVING TO PRODUCTION

CDX consists of a multi-tiered architecture which allows different stages of system development to occur without interfering with other projects or even different parts of the same project in different. The tiers include:

- *Development*—Initial programming begins in this environment.
- *Test*—When the application is deemed ready for program office and external testing it will be moved into the test environment.
- *Production*—After successful testing and client acceptance, the application is moved to the production tier.

- *Demonstration*—applications (usually when they are in test mode) can be isolated for short periods for critical meetings and demonstrations.

The move to production may be a critical step in terms of meeting agency commitments and often must be coordinated with other activities. Where possible adequate time should be planned to complete the movement to final testing and providing final documentation.

Lastly, the CDX Technical Support personnel generally start to become familiar with a data flow during the test period. They help perform testing and assist with documentation. In this way they become thoroughly familiar with the data flow. The program office should provide whatever information is available about the data flow and the user population to prepare the CDX Technical Support to provide quality service to external users.

OPERATIONS AND MAINTENANCE

EPA collection efforts vary dramatically. Some require annual submissions by a given date, others are periodic (e.g., monthly), others are continuous. The volume of submission within a period can also vary dramatically. Collections can come from states, directly from facilities or both.

The exact specification of these characteristics will directly affect the CDX approach and resources for on-going maintenance of the flow. This is another facet of the project that must be planned for in the initial requirements gathering.

Project Management

PROJECT COORDINATION

Proper coordination of the project is critical to success. A typical project may include involvement by OIC staff, program office staff, external stakeholders, CDX support contractors, and possibly program office contractors. OIC and its contractors assign single points of contact to support each program office. The program office should consider nominating a person who is capable of making program office commitments and has access to all required program offices resources. OIC will work closely with the program office staff to manage budget, schedule, progress, and functional or technical issues.

PROJECT COSTS

Depending on the size and complexity of the flow design, implementation and operations and maintenance costs can all vary dramatically. Project funding can also come from a variety of sources. OIC provides for CDX base funding, while System Modernization Funds and program office funding can be used for new implementations. OIC staff will review estimated costs with the program office early in the design phase.

4. Planning Forms

Introduction

To develop cost estimates, schedules, and services for a new data flow, the Office of Information Collection (OIC) must understand program office and end user requirements. This section contains a number of checklists associated with each of the CDX functions described in the previous text. The checklists contain questions about the data flow and should prove useful in helping the program office consider issues and collect important data about it. They will also serve as the basis for initial discussions and planning between CDX staff and the program office.

They are not a complete list, nor do they "describe fully the detail that may be needed to carefully plan a project. However, they are reasonably complete in terms of the "breadth" of the flow to be reviewed. They are organized by the CDX functions.

Maintain and Administer CDX Website for Program Office

The CDX website is the user entry point into CDX. It has both an open portion that generally describes CDX and a private portion only for registered users. Users employ a password to enter the site and select the desired submission type from a tailored menu. The program office can use either the public site or the private site to provide links to program specific information, references, or assistance, etc.

Maintain website	Yes/No	Further description
Would you like any information maintained on a public CDX website related to your program?	Y/N	If yes, describe:
What information would you want maintained on a private CDX website accessed only by users registered for your program? Cross-links to program sites?	Y/N	If Yes identify URL:
References to program help lines?	Y/N	If Yes identify telephone #s:
Links to specific assistance on the data collection?	Y/N	If Yes identify URL:
CDX program documentation on-line (typically the IGs)	Y/N	

Support CDX Users

CDX provides CDX Technical Support help desk to assist users. The CDX Technical Support operates 10 hours a day, 5 days a week. They take requests by toll free number, facsimile, and e-mail. If unavailable, immediately by phone they have voicemail. They assist in CDX operations, not in program related issues such as how to fill in the form, submission dates, etc. However, they will refer users to appropriate program assistance.

The program office should consider what information and/or training they would like to provide the Technical Support staff in order for them to better serve the users. Additionally, the program office should consider if there are submission periods where the volume of calls may be large (200 or more calls a week). With prior notification, the CDX Technical Support staff can be augmented or work extended hours for short durations.

Support CDX users	Yes/No	Further description
Are there specific periods within a year when increased support is required?	Y/N	If yes, when:
Do you have any metrics on the volume of user support queries that you currently receive?	Y/N	If Yes, provide:
Is there any specific training or information that should be provided to the CDX user support staff about the program or the collection?	Y/N	If Yes provide:

Maintain Registration for the Program Office

CDX exchanges data with individuals. All users must register as individuals representing approved organizations and submissions. CDX provides two separate sites, one for individuals representing private or commercial entities and one for government or tribal entities. Program Offices have several options for defining registration procedures.

CDX requires the registration of all individuals using the system. However, the Program Office has options for how to go about registering users. The two most common forms are: Open Registration and Pre-registration. Open registration is best when the program office cannot determine, predict, or control the information about which organizations may submit information or has minimal prior information about the organizations. Where organizations can be identified through permits, prior submissions, or they are limited in number (e.g., states and regions) the EPA can provide CDX with pre-registration data. This typically takes place by the program office providing a data download from an EPA system of all known users that may submit. Pre-registration both reduces end-user burden and helps maintain data quality. Program offices may also elect on how to verify user

authenticity. They sometimes will mail out letters to responsible managers within the submitting organization, and require the manager to nominate individual who will submit.

Register users	Yes/No	Further description
What is the expected number of registered individuals?		Individuals:
What type of organizations will participate: Facilities (commercial and/or government) Companies States Local governments EPA regions or other offices Tribes Other	 Y/N Y/N Y/N Y/N Y/N Y/N Y/N	Elaborate where needed:
Will you provide an electronic list of organizations/individuals to be pre-registered? or Will users simply register openly?	Y/N Y/N	If pre-registering, describe source data:
Will your organization perform any review of the registrants?	Y/N	
Will you require any form of written nomination of individuals by an approved source?	Y/N	
If digital signatures are required, does a digital signature agreement need to be in place prior to submission?	Y/N	If Yes, explain:
If using government (state) registration, is the ability to nominate another government participant required?	Y/N	

Program Office Users Submit Data

It is critical for CDX staff to understand the data being submitted including information related to:

- Types of organizations submitting which are typically states or facilities
- Format and content of the data
- Size and frequency of submissions.

It also important for the program office to know what options and services the EPA can provide. Most significantly the EPA can support submission through web-forms or files. Web form submissions require the user to have the Internet Explorer software and internet connectivity. The details of user requirements are provided in the Overview of Operations Section. CDX also provides a variety of file submission formats, registration, and connectivity options. Which of these is the most appropriate may vary with the type and number of users.

Complete this page for each separate submission type.

Requirement identification	Further description
How is the data currently received?	☐ Paper ☐ Flat-file ☐ EDI ☐ XML ☐ Other
How is the data to be received in CDX?	☐ Paper ☐ Flatfile ☐ EDI ☐ XML ☐ Other
Can you provide an electronic and paper example of a submission? If EDI, what transaction set and implementation convention (IC) If XML, please provide the DTD/schema	Y/N
Are there secondary or attachment forms and/or text?	Y/N If yes describe and provide examples/formats.
What is the annual volume of data? (broken down by format, if more than one submission type) What is the frequency of submission? Are there significant peak or low periods?	 Y/N, When
For submissions from a facility, does the facility also make the same or very similar submission to a state EPA or other agency?	Y/N
In characters what is the: Average size of a single submission?	
Average size of a single file of multiple submissions?	
What is the likely largest size of a single submission?	
What is the likely largest size of a single file of multiple submissions?	
If necessary, is the format such that files can be broken down into small components?	Y/N

CDX Receives Data

CDX receives electronic submissions 24 hours a day, seven days a week. It is taken down a few evenings a month for routine maintenance. At the program office's option, the system can return a receipt acknowledgement e-mail for any item received. All received items are assigned a unique identification number that is the key to tracking the transaction within CDX.

This brief section focuses on how the users will establish the telecommunications connection to CDX, and if a receipt is expected back.

Receive submissions		Further description
Will CDX provide an immediate receipt notification to user?	Y/N	☐ E-mail ☐ CDX inbox ☐ Copy to anyone else
How will the file transfer be managed?		☐ Active Data Retrieval ☐ Secure Socket Layer ☐ Virtual Private Network ☐ Hyper Text Protocol ☐ NEIN Node exchange Other _____

Security and Archiving Requirements

Different EPA submissions have different levels of security and confidentiality associated with them. They also have different levels of compliance enforcement, different records retention policies, and signature requirements. This section addresses these issues.

Archive—All incoming documents are immediately archived as received. OIC and the program office should discuss what constitutes the official copy of record that CDX keeps. Archived data is retained in an Oracle database. The length of retention will be determined between OIC and the program office. Additional archives will be maintained if the document is digitally signed or is reformatted by CDX.

Manage Security—If the EPA program office requires the document to be submitted with a PIN/password or a digital signature this function will verify the accuracy and currency of the password or certificate. Virus detection is also performed (during the receive data function).

Security requirement		Further description
Security Issues		
Will the submissions carry any data relating to national security?	Y/N	Elaborate where needed:
Will the submissions carry any CBI data?	Y/N	Elaborate where needed:
If there is CBI or National Security Data submitted, how is it currently processed?		
Is the data public?	Y/N	If not, describe.
What is the basis in law or regulation to define the information collection?		
What are the enforcement issues and levels related to the data submission?		
What has been the extent and type of enforcement carried on in the program, as related to the submission and review of the data?		
What requirements will the EPA enforcement office have upon CDX regarding submission data?		
Does the current paper form require a signature, and what are certifications associated with it?	Y/N	
If there is a signature, what steps are taken to validate it?		
Will a digital signature be required?	Y/N	
Does the program office require identity proofing before issuing a certificate	Y/N	
What is the copy of record that CDX should keep for legal/enforcement reasons?		
Will the CDX be required to return a EPA—certified copy of record to the submitter?	Y/N	
What level or type of individuals will be authorized to sign?		
If no digital signature is required will a user defined password be used?	Y/N	
Archiving		
CDX maintains from 1-3 copies of the submitted record. For how many years will the program office require this data be available?	Y/N	
How frequent is a copy of archived data likely to be requested?		
How quickly must it be retrieved?		

Translate and Edit Data

CDX can translate incoming data input format to a different format. The most common translation at this time is to accept XML formats in from users and translate them into flat-files acceptable to the EPA legacy systems. The CDX can accept a variety of formats including program office specific flat-files, EDI, and XML. XML is the preferred NEIN format for input.

CDX can also accept a single input format and produce multiple output formats to disparate recipient systems. To date all distribution has been to EPA internal systems, but support can be provided to other federal and state systems.

Finally, CDX can edit and/or validate the content of individual data elements. It can mark transactions as accepted, accepted with errors or rejected and can notify users and/or program office via e-mail of the results.

This section addresses translation and/or validation of incoming data. Data quality is an increasingly important issue in EPA. CDX through its web forms and translation capabilities can improve data quality.

Translate submissions		Further description
Will the format be translated into a different format for output?	Y/N	If Yes: ☐ XML ☐ EDI ☐ Flat-file ☐ Other Provide a sample layout and decision rules.
Will a single input file result in multiple output files?	Y/N	Define primary EPA target and any alternate targets. Provide layout and decision rules for each.
Will CDX apply edit checks/validations to any data elements?	Y/N	If yes, identify data element attributes.
Will CDX need to access any EPA system for data, in order to apply edits?	Y/N	If yes, describe
What actions should be taken when data fails edit criteria? ☐ Reject with message to user and/or EPA? ☐ Accept with message to user and/or EPA?		Define actions and criteria
Web form submissions What data elements will be input?		Provide existing forms and edit criteria.

Translate submissions		Further description
What format will be used for output?		☐ XML ☐ EDI ☐ Flat-file ☐ Other Provide a sample layout and decision rules.
Will a single input file result in multiple output files?	Y/N	Define primary EPA target and any alternate targets. Provide layout and decision rules for each.
Will CDX need to access any EPA system for data, in order to display the form or apply edits?	Y/N	If yes, describe
Other than log-on, will a PIN or digital signature be required?	Y/N	If yes, describe
Will any forms or files be attached to the submitted form?	Y/N	If yes, describe

Distribute Data and Return Messages

The CDX can forward (push) or make available (pull) the submitted data to any system approved by the program office.

Distribution can be to one or more "target" systems in the EPA or in other agencies. The program office also has flexibility about how and when data is transferred from CDX to their designated system.

Distribute submissions		Further description
What EPA organization and database is the primary recipient of the submission data?		
What will be the transfer mechanism?		☐ ADR ☐ Program downloads from CDX ☐ CDX pushes to (how) ☐ Other
How will the physical connection be made?		☐ VPN ☐ SSL ☐ Secure FTP? ☐ Other
How often and when will the transfers occur?		
What, if any, means of confirmation of the exchange will be required?		
Will the program office or OIC require any printed reports of CDX transactions?	Y/N	

Distribute submissions		Further description
What, if any, metrics will the program office routinely require that describes CDX usage?		
Will there be any additional organization and system to receive the data?	Y/N	
What will be the mechanism, connectivity, and frequency be for each other recipient?		
Will the receiving EPA system be returning any messages to submitters or other organization through CDX?	Y/N	If so, please describe format, frequency and volume of returned message.